

Bellwork: 12/5/11

Use substitution:

$$\begin{matrix} 10 & 2 \\ X + Y = 12 \Rightarrow X = -Y + 12 \end{matrix}$$

$$\begin{matrix} 10 & 2 \\ X - Y = 8 \end{matrix} \quad X = -(2) + 12$$

$$-Y + 12 - Y = 8 \quad X = 10$$

$$-2Y + 12 = 8$$

$$-2Y = -4$$

$$Y = 2$$

$(10, 2)$   
Consistent independent

Use elimination:

$$\begin{matrix} 2 & 8 \\ 13X - 2Y = 10 \end{matrix}$$

$$2(8X + Y) = (24)2$$

$$13X - 2Y = 10$$

$$16X + 2Y = 48$$

$$29X = 58$$

$$X = 2$$

$$8(2) + Y = 24$$

$$16 + Y = 24$$

$$Y = 8$$

Consistent independent

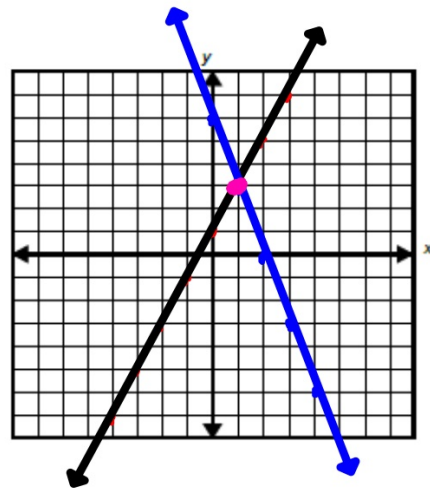
$(2, 8)$

Use the graphing method to solve.

$$1) \begin{cases} 2x - y = -1 \\ 3x + y = 6 \end{cases}$$

$$\begin{aligned} 2x - y &= -1 \\ -y &= -2x - 1 \\ y &= 2x + 1 \end{aligned}$$

$$\begin{aligned} 3x + y &= 6 \\ y &= -3x + 6 \\ (1, 3) \end{aligned}$$



Use the substitution method.

$$\begin{array}{l} 2) \begin{cases} x + 2y = 7 \\ 2x - y = 4 \end{cases} \Rightarrow \boxed{x = -2y + 7} \quad (3, 2) \\ \begin{array}{l} 2(-2y + 7) - y = 4 \\ -4y + 14 - y = 4 \\ -5y + 14 = 4 \\ -5y = -10 \\ \boxed{y = 2} \end{array} \end{array}$$
$$\begin{array}{l} x = -2(2) + 7 \\ \boxed{x = 3} \end{array}$$

Use the elimination method to solve the system. Show all work.

$$3) \begin{cases} 4\overset{5}{a} - 5\overset{2}{b} = 10 \\ -1(2\overset{5}{a} - 5\overset{2}{b}) = 0(-1) \end{cases}$$

$$\begin{array}{r} 4a - 5b = 10 \\ -2a + 5b = 0 \\ \hline \end{array}$$

$$2a = 10$$

$$\boxed{a = 5}$$

$$4(5) - 5b = 10$$

$$\begin{array}{r} 20 - 5b = 10 \\ -20 \quad -20 \\ \hline \end{array}$$

$$-5b = -10$$

$$\boxed{b = 2}$$

$$\checkmark (5, 2)$$

Use the elimination method to solve the system. Show all work.

$$4) \begin{cases} 2b = 2a + b - 4 \\ 3a = 3b - a + 2 \end{cases}$$

$$\begin{array}{r} 2b = 2a + b - 4 \\ -2a - 2a \\ \hline -2a + 2b = b - 4 \\ -b - b \\ \hline -2a + b = -4 \end{array}$$

$$\begin{array}{r} 3a = 3b - a + 2 \\ -3b - 3b \\ \hline 3a - 3b = -a + 2 \\ +a \quad +a \\ \hline 4a - 3b = 2 \end{array}$$

$$\begin{array}{r} -2(5) + b = -4 \\ -10 + b = -4 \\ \hline b = 6 \end{array}$$

✓(5, 6)

$$\begin{array}{r} 3(-2a + b) = (-4)3 \\ + 4a - 3b = 2 \\ \hline -6a + 3b = -12 \\ + 4a - 3b = 2 \\ \hline -2a = -10 \\ \boxed{a = 5} \end{array}$$

$$5) \begin{cases} 2m + 3n = 6 \\ m + 2n = 10 \end{cases}$$

$$6) \begin{cases} 2x - y = 8 \\ x - 8y = 4 \end{cases}$$

$$7) \begin{cases} 3x + y = 6 \\ 2x - y = -1 \end{cases}$$



$$\begin{array}{l}
 8) \begin{cases} 5p + 12q = 13 \\ -3(3p + 4q) = (3) - 3 \end{cases} \\
 \hline
 5p + 12q = 13 \\
 -9p - 12q = -9 \\
 \hline
 -4p = 4 \\
 \boxed{p = -1}
 \end{array}$$

$$\checkmark \left( -1, \frac{3}{2} \right)$$

$$\begin{array}{l}
 3(-1) + 4q = 3 \\
 -3 + 4q = 3 \\
 +3 \quad +3 \\
 \hline
 4q = 6 \\
 \frac{4q}{4} = \frac{6}{4} \\
 \boxed{q = \frac{6}{4} = \frac{3}{2}}
 \end{array}$$

Choose your method to solve.

$$9) \begin{cases} x - 3y = -5 \\ 2x - 5y = -9 \end{cases}$$

Choose your method to solve.

$$10) \begin{cases} 2x - y = 2 \\ x = \frac{2}{3}y \end{cases}$$

